

CLAIMS

What is claimed is:

1. An integrated circuit test system comprising:

5 a test chamber, a portion of which is adapted to interface with a tester having a circuit panel,

an auxiliary chamber adjacent the test chamber, the auxiliary chamber including a first door between the auxiliary chamber and the test chamber, the auxiliary chamber further including a second door between the auxiliary chamber and an external region, the auxiliary chamber for receiving a sample prior to and following a test; and

10 a transfer unit in the chamber, for transferring the sample between the test chamber and the auxiliary chamber through the first door.

2. The system of claim 1, wherein said transfer unit comprises gloves inserted into a wall of the test chamber to allow for manual manipulation of the sample between the test chamber and the auxiliary chamber.

20 3. The system of claim 1, wherein said transfer unit comprises a transfer robot installed in the chamber, for transferring the sample between the test chamber and the auxiliary chamber in response to an applied control signal.

4. The system of claim 1, wherein the test chamber further includes a check valve on a wall thereof for discharging air from the test chamber interior to an external region.

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5. The system of claim 1 wherein the test chamber further comprises a region that allows for the lowering and raising of a supply nozzle to and from the circuit panel.

10 6. The system of claim 5, wherein said test chamber further includes a hole through which the supply nozzle is positioned, and said test chamber is further equipped with an elastic pipe between the hole and a portion of the supply nozzle positioned within the chamber, said elastic pipe elastically deforming with
15 movement in the supply nozzle, and maintaining a seal of the test chamber.

7. The system of claim 1, wherein said chamber is made at least partially of a transparent material to allow for external
20 observation of a test conducted therein.

8. A method of testing an integrated circuit using a system that includes a test chamber, a portion of which is adapted to interface with a tester having a circuit panel, an auxiliary
25 chamber adjacent the test chamber, the auxiliary chamber

including a first door between the auxiliary chamber and the test chamber, the auxiliary chamber further including a second door between the auxiliary chamber and an external region, the auxiliary chamber for receiving a sample prior to and following
5 a test; and a transfer unit in the chamber, for transferring the sample between the test chamber and the auxiliary chamber through the first door, the method comprising:

opening the second door for introducing at least one sample in the auxiliary chamber;

10 closing the second door and then opening the first door so as to mount the sample on the test board using the transfer unit;

positioning the supply nozzle over the sample and cooling the sample with air of a suitable temperature and moisture level,
15 and then conducting an electrical test;

at the completion of the electrical test, removing the supply nozzle from the sample, opening the first door, and transferring the tested sample to the auxiliary chamber; and
closing the first door.

20 9. The method of claim 8, further comprising, following transferring the tested sample to the auxiliary chamber and prior to closing the first door, mounting a second sample located in the auxiliary chamber on the test board.

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10. The method of claim 8, wherein the air of a suitable temperature and moisture level supplied by the supply nozzle is supplied to maintain pressure of the test chamber interior at a level higher than the pressure external to the second door.

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11. The method of claim 8, wherein the test chamber further includes a check valve on a wall thereof for discharging air from the test chamber interior to an external region, to maintain the pressure of the test chamber interior at a selected level.

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12. The method of claim 8, wherein said air of a suitable temperature and moisture level supplied by the supply nozzle has a temperature range of $-150^{\circ}\text{C} \sim -40^{\circ}\text{C}$.

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